

## ABSTRACT

Briefly described, embodiments of this disclosure include structures, methods of forming the structures, and methods of using the structures. One exemplary structure, among others, includes a nanospecies and a porous material. The nanospecies has a first characteristic and a second detectable characteristic. In addition, a second detectable energy is produced corresponding to the second detectable characteristic upon exposure to a first energy. The porous material has the first characteristic and a plurality of pores. The first characteristic causes the nanospecies to interact with the porous material and become disposed in the pores of the porous material.